

Changes of the basic physico-chemical characteristics of small rivers influenced by anthropogenic elements in the area of Łódź, Poland

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Abstract Two small rivers draining the western part of the Łódź Hills (central Poland) were studied. The rivers differ in both land use and bed characteristics (one urban and one suburban). The analyses were based on six-year-long time series. The spatial and temporal variability of basic physical and chemical parameters of surface water, such as temperature, pH, SEC and dissolved oxygen, were investigated. The level of urbanization defines the rate and direction of pollutant migration in the environment; it also influences the environment's ability to reduce the contamination. Understanding the seasonal variability of the basic physico-chemical water properties enables the prediction of transformations in the basin and the design sanitary sewer management adequate for the areas of different urbanization levels.

Key words water quality; anthropopressure; urban hydrology; Poland